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Analysis Of QRIS Usage And MSME Performance In Indonesia
TYRONE EZEKIEL HAMONANGAN, I Wayan Nuka Lantara, M.Si., Ph.D.
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CHAPTER V

CONCLUSIONS

This chapter concludes the study by summarizing the main findings regarding the research objectives, questions, and hypotheses. It explains the overall implications of QRIS usage intensity for MSME performance and sustainability-oriented outcomes, while also touching on the role of organizational and contextual conditions in influencing these results. Moreover, this chapter discusses the theoretical and practical implications of the study, acknowledges its limitations, and provides recommendations for future research.

5.1 Conclusions

This study finds that QRIS intensification generally resulted in positive changes in MSME performance, although there are varying degrees of support for each hypothesis when interpreted through descriptive comparison, paired-samples statistical tests, and qualitative cross-case analysis.

For H1, the descriptive comparison shows that average monthly sales increased after QRIS intensification. However, the statistical support is limited and significantly influenced by contextual factors. In nominal-value testing, the increase was not statistically significant in either the paired-samples t-test or the Wilcoxon signed-rank test. When the same monetary values were converted into natural logarithm form, the paired-samples t-test became significant, although the Wilcoxon result remained non-significant. Therefore, H1 is best interpreted as descriptively supported with limited statistical support.

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For H2, the findings indicate that QRIS intensification was followed by an improvement in perceived business performance. The paired-samples comparison shows that the business performance score increased after QRIS usage intensification. Although the paired-samples t-test result was slightly above the 5% significance threshold, the asymptotic Wilcoxon signed-rank test result falls below the 5% threshold, but the exact Wilcoxon probability is slightly above 5%. Given the very small sample size, the statistical evidence should therefore be interpreted as suggestive rather than definitive. Combined with the qualitative findings, this suggests that QRIS usage intensification was associated mainly with better transaction convenience, payment efficiency, and perceived operational performance. Therefore, H2 is best interpreted as having descriptive support with suggestive statistical support.

For H3, the sustainability-oriented outcome score also increased after QRIS usage intensification. The paired-samples t-test result showed significance, while the Wilcoxon signed-rank test result did not reach the 5% significance level. This means that the statistical evidence is mixed, even though the direction of change is clearly positive. When combined with the qualitative evidence on transparency, inclusion, and continuity support, the findings indicate that QRIS intensification was associated with stronger sustainability-related outcomes in the observed MSMEs. Therefore, H3 receives descriptive support with partial statistical support.

For H4, the contextual factor score clearly changed after QRIS intensification. The paired-samples t-test indicates a statistically significant

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difference, while the Wilcoxon interpretation should be treated more cautiously because the asymptotic result falls below 5%, but the exact Wilcoxon probability is slightly above that 5% threshold. Quantitatively, this indicates significant contextual change before and after QRIS usage intensification, notably a decrease in mean contextual factors (CTX) construct scores after intensification, which indicates an increase in perceived usage constraints from MSME owners, further demonstrating that organizational conditions and contextual factors play a role in the degree of organizational benefits received by MSMEs through QRIS usage. However, this paired-samples result does not explain variation across MSMEs by itself. The relevant explanation still depends on the qualitative cross-case analysis, which shows that digital readiness, customer payment habits, signal quality, settlement reliability, and operational adaptation significantly influence how QRIS actually generates organizational benefits in each MSME case. Therefore, H4 is best interpreted as supported statistically as well as having qualitative descriptive support.

Overall, the findings indicate that QRIS intensification generally resulted in an improvement in MSME conditions, especially in operational performance, while the degree of these improvements depend on organizational conditions and contextual factors. Overall, the study shows that QRIS is not merely a payment tool but part of a larger process of operational adaptation, business formalization, and digital transition in the MSME landscape. However, because the study is based on a very small number of matched observations and includes retrospective

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pre-intensification ratings for several constructs, the findings should be interpreted as supportive mixed-methods evidence rather than strong causal proof.

5.2 Limitations

This study has several limitations that should be acknowledged:

1. The number of MSMEs included in the paired-samples statistical comparison is very small, so the statistical findings should be interpreted cautiously.

2. Several pre-intensification construct measures are based on retrospective ratings by MSME owners, which may be affected by individual recall bias.

3. Some transaction and sales data were available only in the form of annual monthly averages rather than detailed monthly records, which limits the depth of quantitative testing.

4. Although the study includes paired-samples statistical comparison, the design remains non-experimental and cannot establish strong causal claims.

Therefore, the results are to be interpreted as supportive evidence within a small-sample qualitative-dominant mixed-methods multiple-case study.

5.3 Implications

This section provides the implications of the study based on the findings discussed in Chapter IV and the conclusions that have been drawn. There are theoretical and practical implications as well as recommendations. The theoretical implications explain how the findings contribute to the literature on digital payment use, post-adoption technology use, and MSME digitalization, while the practical

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implications and recommendations address how QRIS-related programs and future research may be improved, respectively.

5.3.1 Theoretical implications

The findings of this study contribute to the understanding of digital payment adoption in MSMEs by showing that the impact of QRIS should not just be interpreted in terms of sales and transactions. Instead, it appears that QRIS intensification does not only relate to the aspect of sales but also to operational efficiency, perceived business performance, and the sustainability-oriented outcomes of MSMEs. This supports the broader perspective that digital payment systems are not just a payment tool but are also a part of organizational change. Furthermore, the findings also show that contextual and organizational conditions are significantly in influencing how QRIS is experienced by different MSMEs. Therefore, the study reinforces the theoretical position that the outcomes of adopting technology are shaped by both the intensity of its usage and the capabilities of the adopting business.

The study also contributes methodologically by showing that small-sample qualitative-dominant mixed-methods multiple-case research can be strengthened through paired-samples statistical comparison without abandoning the qualitative aspect of interpretation. In this case, the paired-samples tests do not replace the qualitative explanation but rather support and sharpen the analysis differences before and after QRIS usage intensification. This suggests that future research can benefit from combining both quantitative and qualitative evidence to complement one another.

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5.3.2 Practical implications

From a practical perspective, the findings suggest that QRIS intensification should not only be encouraged as a payment method but also as a business improvement tool for MSMEs.

The positive changes in business performance and sustainability-related outcomes indicate that more intensive QRIS use may help businesses improve with handling transactions and organizing their financial practices, as well as strengthen their customer service continuity.

Therefore, stakeholders such as Bank Indonesia, local governments, financial institutions, and MSME development agencies should not focus only on QRIS registration but also on helping MSMEs integrate QRIS into their daily business operations more consistently.

The results also suggest that the benefits of QRIS depend partly on some contextual factors. MSMEs may need stronger support in developing their digital skills and transaction recording practices, improved internet reliability, and digital literacy education for customers.

Therefore, practical interventions should include training, mentoring, and technical assistance rather than relying on just providing technology. Education and training programs that teach about payment digitalization combined with simple bookkeeping support and customer education on digital literacy are likely to generate a higher degree of net organizational benefits for MSMEs.

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5.3.3 Recommendations

One of the recommendations for future research involves analyzing a larger number of MSMEs so that statistical analysis can be conducted with stronger inferential power and produce findings with better accuracy. It would also be beneficial to collect more detailed transaction records over time, including consistent monthly observations, so that the analysis of changes before and after QRIS usage intensification can be conducted more robustly.

Additionally, future studies should also consider gathering prospective data rather than just retrospective pre-adoption data whenever possible in order to reduce limitations such as recall bias. Future studies may also expand the multiple-case study design by comparing MSMEs across different regions, sectors, business sizes, and degrees of QRIS integration in daily business routines.

For policy and practice, QRIS expansion programs should be paired with business assistance in digital skills, bookkeeping, and customer education so that the potential benefits of QRIS can emerge in a more stable and sustainable manner within MSME performance outcomes. Support programs should not focus only on increasing the number of QRIS merchants, but also on helping MSMEs use recorded transaction data from QRIS for monitoring, increased financial discipline, and day-to-day operational decision-making.